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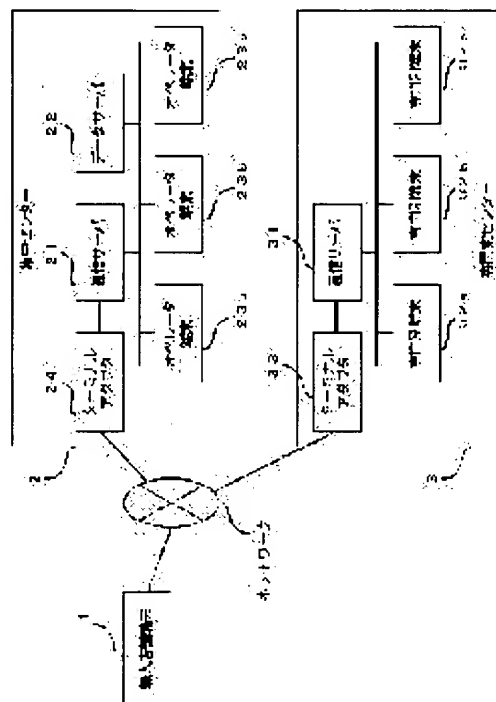(22)Date of filing : 24.08.1998

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(54) DATA EXCHANGE SYSTEM, VOICE PROCESSING UNIT, IMAGE PROCESSING UNIT, DOCUMENT READER, DATA EXCHANGE METHOD, VOICE PROCESSING METHOD, IMAGE PROCESSING METHOD AND STORAGE MEDIUM

(57)Abstract:
PROBLEM TO BE SOLVED: To provide a data exchange system where a broad and detailed information is served to an interlocutor without a direct face-to-face conversation, to provide an image processing unit to send an image with high resolution as necessary and to provide a voice processing unit or the like to transmit voice data with little delay.
SOLUTION: A concentrated center 2 accepts an interactive application from a customer operating an unattended shop terminal 1 and assigns the unattended shop terminal 1 to any of operator terminals 23a-23c. The operator terminals 23a-23c and the unattended shop terminal 1 exchange voice characteristic information and image compression information to make interaction between the customer and an operator. The density of the image of the customer is increased/decreased in response to an instruction of the operator, prescribed frequency components of voice are transmitted, and an image of both sides of a customer's certificate or the like that are almost simultaneously scanned is transmitted. The unattended shop terminal 1 makes communication with expert terminals 32a-32c that are operated by an expert in response to the designation by the customer or the operator to make interaction between the customer and the experts.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[The technical field to which invention belongs] It is related with a data switched system, a speech processing unit, an image processing system, and a document reader for especially this invention to perform communication between dialogue persons about a data switched system, a speech processing unit, and an image processing system.
[0002]
[Description of the Prior Art] In a financial institution, when responding to a detailed request of a financial product or proposing to a financial product, usually service by confrontation is received at the window of a financial institution. However, in order to pursue merits, such as service provision to the customer of a remote place, and service provision in the outside hours of a window, in recent years, the attempt which offers the service which is equivalent to window business using a multimedia terminal is made.
[0003] The terminal which a customer operates, and the terminal which the reception person in charge of a financial institution operates are specifically connected by the communication line, and the attempt which performs voice of a customer or a reception person in charge and exchange of an image during the end of these both ends is made.
[0004]
[Problem(s) to be Solved by the Invention] However, by the conventional technique, in the customer having asked for extensive or detailed explanation across the range which can respond by the reception person in charge etc., if the financial institution did not request for a customer that a customer should go to a window directly, it was not able to offer the service for which a customer asks.
[0005] Moreover, in order to check actuation of a customer, it is necessary to supply continuously the video data showing the animation which picturizes a customer and is obtained to the terminal by the side of a reception person in charge. For this reason, the amount of data of a video data was conventionally restricted to the amount which is the degree real-time transmission by the communication line which connects the both-ends end of a customer side and a reception person-in-charge side is guaranteed to be.
[0006] however, those who call a customer and operate a terminal -- a customer -- him whom grasps the details of an operator's physiognomy or a customer presents in order to check that he is him -- it is necessary to grasp the details of the photograph of his face given to the data for a check for this reason, the result to which the amount of data of a video data is restricted by the conventional technique -- an operator -- a customer -- the check of being him was able to perform only transmission of resolution with a very difficult low degree.
[0007] moreover, him -- in order to grasp the details of the contents of the data for a check, the image of each side of the data needed to be read using the scanner etc., and conventionally, the time amount which reading takes was long and had checked advance of a smooth procedure of a customer and a reception person in charge.
[0008] Moreover, for advance of the smooth dialogue of a customer and a reception person in charge, the voice data showing the voice which both uttered also needs to be transmitted. However, conventionally, since the amount of data of voice data was large, real-time transmission of the voice by the communication line which connects the end of both ends was not performed, but delay had arisen in audio transmission.
[0009] This invention was made in view of the above-mentioned actual condition, and it aims at providing a dialogue person with a data switched system and the data-exchange method with being extensive for being, carrying out and performing detailed information offer, without meeting directly. Moreover, this invention also makes it the purpose to offer the image processing system and the image-processing method of transmitting an image with high resolution, when the details of an image need to be grasped. Moreover, this invention also makes it the purpose to offer the speech processing unit and the speech processing method for transmitting voice data with little delay among dialogue persons. Moreover, this invention also makes it the purpose to offer the document reader which reads the image of each side of documents, such as a certificate, into a high speed.
[0010]
[Means for Solving the Problem] In order to attain the above-mentioned purpose, a data switched system concerning the 1st viewpoint of this invention It has the 1st, 2nd, and 3rd data-exchange means. Each a means of said data exchange An image data origination means to create image data showing an image of an operator who operates each one, A voice data creation means to create voice data showing each aforementioned operator's voice, It has a playback means to reproduce an image and voice which said image data supplied from said other data-exchange means and said voice data express. Said 1st data-exchange means Said 2nd data-exchange means is equipped with a means to supply a notice which requires the data exchange with said 3rd data-exchange means. Said 2nd data-exchange means said notice supplied from said 1st data-exchange means -- answering -- this -- for said 3rd data-exchange means by which the data exchange with the 1st data-exchange means should be performed It has a means to notify the address which shows the 1st data-exchange means. this -- said 3rd data-exchange means Voice data which the address which shows self, image data which said image data origination means with which self is equipped created, and said voice data creation means created It has a means to

supply said 1st data-exchange means which the address notified from said 2nd data-exchange means shows. Said 1st data-exchange means voice data which image data which said image data origination means with which self is equipped created further, and said voice data creation means created the address notified from said 3rd data-exchange means shows -- this -- it is characterized by what it has a means to supply the 3rd data-exchange means for.

[0011] According to such a data switched system, in a customer who operates the 1st data-exchange means having asked for detailed explanation an expert who operates the 3rd data-exchange means etc., communication using voice and an image between these customers and an expert is started by the 2nd data-exchange means. Therefore, a customer etc. is provided with extensive thru/or detailed information by expert who does not meet a customer etc. and directly.

[0012] Said 2nd data-exchange means is automatically specified not through recognition according [a thing equipped with a means to specify an operator who operates said 1st data-exchange means, then a customer who operates the 1st data-exchange means] to people based on said image data supplied from said 1st data-exchange means, and said voice data.

[0013] Said 1st data-exchange means voice data which image data which said image data origination means with which self is equipped created further, and said voice data creation means created It has a means to supply said 2nd data-exchange means. Said 2nd data-exchange means It has a router and two or more terminals. Each aforementioned terminal of said 2nd data-exchange means It has said image data origination means, said voice data creation means, and said playback means. Said router of said 2nd data-exchange means A distribution decision means to determine said terminal which should acquire from from image data and voice data which were supplied from said 1st data-exchange means among each aforementioned terminal of said 2nd data-exchange means, A means to supply image data supplied to said terminal which said distribution decision means determined from said 1st data-exchange means, and voice data, You may have a means to supply voice data which image data which said image data origination means with which each aforementioned data-exchange means is equipped created, and said voice data creation means created to said 1st data-exchange means. Since according to such a data switched system each terminal of the 2nd data-exchange means distributes and a communication link with the 1st data-exchange means is performed, a load of each terminal is mitigated and a communication link between each terminal and the 1st data-exchange means becomes efficient.

[0014] Said 3rd data-exchange means is equipped with a router and two or more terminals. Said 1st data-exchange means Said 2nd data-exchange means is equipped with a means to notify conditions which said 3rd data-exchange means to perform the data exchange with self should fulfill. Said 2nd data-exchange means A thing corresponding to said conditions notified from said 1st data-exchange means among said terminals of said 3rd data-exchange means is specified. It has a terminal assignment means to supply data in which said specified terminal is shown to said 3rd data-exchange means. Each aforementioned terminal of said 3rd data-exchange means It has said image data origination means, said voice data creation means, and said playback means. Said router of said 3rd data-exchange means A means to supply image data supplied to said terminal which acquires said data supplied from said terminal assignment means, and this data shows from said 1st data-exchange means, and voice data, You may have a means to supply voice data which image data which said image data origination means with which each aforementioned terminal of said 3rd data-exchange means is equipped created, and said voice data creation means created to said 1st data-exchange means. This selects the 2nd data-exchange means according to conditions which a customer etc. showed an expert who should consider a dialogue as a customer who operates the 1st data-exchange means. Therefore, a customer etc. is appropriately provided with extensive thru/or detailed information.

[0015] Said 2nd and 3rd data-exchange means may be equipped with a means to supply voice data of each other which image data which said image data origination means with which self is equipped created further, and said voice data creation means created. Thereby, communication between three persons of a customer who operates the 1st thru/or 3rd data-exchange means, a reception person in charge, and an expert is performed.

[0016] Said voice-data creation means of each aforementioned data-exchange means may be equipped with a component extract means create said voice data which expresses amplitude of a component of predetermined frequency among each aforementioned operator's voice, and said playback means of each aforementioned data-exchange means may be equipped with a means reproduce the voice showing what superimposed mutually an AC signal which has amplitude and said predetermined frequency which said voice data expresses as said voice which said voice data expresses. Thereby, the amount of data of voice data becomes small compared with what only carried out [voice] A/D conversion, transmission of data comes to be performed smoothly, and generating of delay is prevented.

[0017] Said image data origination means of said 1st data-exchange means Are said image data showing an animation and a ratio of the amount of data to time amount which playback of the animation takes A value which density assignment information supplied to self shows may be equipped with a means to create said equal image data substantially, and said 2nd data-exchange means may be equipped with a means to supply said density assignment information to said 1st data-exchange means. When density assignment information that creation of image data which expresses an animation of high density by this when details of an image need to be grasped is directed is supplied from the 2nd data-exchange means, transmission of an image with high resolution is performed.

[0018] Said 1st data-exchange means may be equipped with a document reading means to create document image data showing an image of a document, and to supply said 2nd data-exchange means, and said 2nd data-exchange means may be equipped with a document display means to display an image which said document image data supplied from said 1st data-exchange means expresses. those who call a customer by this -- a customer -- images, such as a certificate for checking that he is him, are acquired.

[0019] An image of each side of documents, such as a thing equipped with a means to create said document image data which said document reading means scans the surface and a rear face of said document to coincidence substantially, and expresses an image of the surface of said scanned document and a rear face, then a certificate, is read into a high speed.

[0020] Said document reading means by carrying out the sequential image pick-up of the image of a field of a direction which countered self among each side of said document An image pick-up means to picturize an image of each side of said document and to create said document image data showing a picturized image, Even if each field of said document is equipped with a document migration means to carry out sequential migration of said document so that the sequential aforementioned image pick-up means may be countered, an image of each field of documents, such as a certificate, is read into a high speed.

[0021] Said document reading means is countered and formed in each field of said document, an image of a field of a direction which counters self among each side of said document is picturized, and even if it has an image pick-up means to create said document image data showing a picturized image, an image of each field of documents, such as a certificate, is read into a high speed.

[0022] Moreover, a speech processing unit concerning the 2nd viewpoint of this invention A component extract means to create the voice feature data which expresses amplitude of a component of predetermined frequency among an operator's voice, Said voice feature data is acquired and it is characterized by having a playback means to reproduce voice showing what superimposed mutually an AC signal which has amplitude and said predetermined frequency which said acquired voice feature data expresses as said voice which said voice feature data expresses.

[0023] According to such a speech processing unit, the amount of data of voice data becomes small compared with what only carried out [voice] A/D conversion, transmission of data comes to be performed smoothly, and generating of delay is prevented.

[0024] Moreover, an image processing system concerning the 3rd viewpoint of this invention may express an animation, and may be equipped with an image data origination means by which a ratio of the amount of data to time amount which playback of the animation takes creates equal image data substantially to a value which density assignment information supplied to self shows, and a density assignment means to supply said density assignment information to said image data origination means.

[0025] When density assignment information that creation of image data which expresses an animation of high density when details of an image need to be grasped is directed is supplied according to such an image processing system, transmission of an image with high resolution is performed.

[0026] Moreover, a document reader concerning the 4th viewpoint of this invention A means to create said document image data which is the document reader which creates document image data showing an image of a document, scans one field of said document, and expresses an image of the field concerned, A field of another side of said document is substantially scanned to coincidence with one [said] field of said document being scanned, and it is characterized by what it has a means to create said document image data showing an image of the field concerned for.

[0027] According to such a document reader, as a result of reading both sides of a document into coincidence mostly, an image of each side of documents, such as a certificate, is read into a high speed.

[0028] Moreover, a document reader concerning the 5th viewpoint of this invention By carrying out the sequential image pick-up of the image of a field of a direction which is the document reader which creates document image data showing an image of a document, and countered self among each field of said document An image of each field of said document is picturized and it is characterized by what it has an image pick-up means to create said document image data showing a picturized image, and a document migration means to carry out sequential migration of said document so that each field of said document may counter the sequential aforementioned image pick-up means for.

[0029] Also by such document reader, as a result of reading each side of a document automatically one by one, waste of time amount by actuation of people is avoided, and an image of each side of documents, such as a certificate, is read into a high speed.

[0030] Moreover, a data-exchange method concerning the 6th viewpoint of this invention It has the 1st, 2nd, and 3rd data-exchange steps. Each step of said data exchange An image data origination step which creates image data showing an image of an operator who operates each one, A voice data creation step which creates voice data showing each aforementioned operator's voice, It has a playback step which reproduces an image and voice which said image data supplied from said other data-exchange steps and said voice data express. Said 1st data-exchange step Said 2nd data-exchange step is equipped with a step which supplies a notice which requires the data exchange with said 3rd data-exchange step. Said 2nd data-exchange step Said notice supplied from said 1st data-exchange step is answered. this -- to the 3rd [said] data-exchange step which should perform the data exchange with the 1st data-exchange step It has a step which notifies the address which shows the 1st data-exchange step. this -- said 3rd data-exchange step Voice data which the address which shows self, image data which said image data origination step with which self is equipped created, and said voice data creation step created It has a step supplied to said 1st data-exchange step which the address notified from said 2nd data-exchange step shows. Said 1st data-exchange step voice data which image data which said image data origination step with which self is equipped created further, and said voice data creation step created the address notified from said 3rd data-exchange step shows -- this -- it is characterized by what it has a step supplied to the 3rd data-exchange step for.

[0031] According to such a data-exchange method, in a customer who operates the 1st data-exchange step having asked for detailed explanation an expert who operates the 3rd data-exchange step etc., communication using voice and an image between these customers and an expert is started by the 2nd data-exchange step. Therefore, a customer etc. is provided with extensive thru/or detailed information by expert who does not meet a customer etc. and directly.

[0032] Moreover, a speech processing method concerning the 7th viewpoint of this invention A component extract step which creates the voice feature data which expresses amplitude of a component of predetermined frequency among an operator's voice, Said voice feature data is acquired and it is characterized by what it has a playback step which reproduces voice showing what superimposed mutually an AC signal which has amplitude and said predetermined frequency which said acquired voice feature data expresses as said voice which said voice feature data expresses for.

[0033] According to such a speech processing method, the amount of data of voice data becomes small compared with what only carried out [voice] A/D conversion, transmission of data comes to be performed smoothly, and generating of delay is prevented.

[0034] Moreover, an image-processing method concerning the 8th viewpoint of this invention expresses an animation, and is characterized by what it has for an image data-origination step to which a ratio of the amount of data to time amount which playback of the animation takes creates equal image data substantially to a value which density assignment information supplied to self shows, and a density assignment step which supplies said density assignment information to said image data origination step.

[0035] When density assignment information that creation of image data which expresses an animation of high density when details of an image need to be grasped is directed is supplied according to such an image-processing method, transmission of an image with high resolution is performed.

[0036] Moreover, a record medium concerning the 9th viewpoint of this invention in which computer reading is possible The 1st, 2nd, and 3rd connected computers are operated as 1st, 2nd, and 3rd data-exchange means. An image data origination means to create image data showing an image of an operator who operates each one for each a means of said data exchange, A voice data creation means to create voice data showing each aforementioned operator's voice, A playback means to reproduce an image and voice which said image data supplied from said other data-exchange means and said voice data express, It is made to function by carrying out. Said 1st data-exchange means for said 2nd data-exchange means Make it function as a means to supply a notice which requires the data exchange with said 3rd data-exchange means, and said notice to which said 2nd data-exchange means was supplied from said 1st data-exchange means is answered. this -- for said 3rd data-exchange means by which the data exchange with the 1st data-exchange means should be performed It is made to function as a means to notify the address which shows the 1st data-exchange means. this -- Voice data with which the address which shows self, image data to which said image data origination means by which self had created, and said voice data creation means created said 3rd data-exchange means It is made to function as a means to supply said 1st data-exchange means which the address notified from said 2nd data-exchange means shows. Voice data which image data to which said image data origination means with which self is equipped created said 1st data-exchange means further, and said voice data creation means created the address notified from said 3rd data-exchange means shows -- this -- it is characterized by recording a program for making it function as a means to supply the 3rd data-exchange means.

[0037] The 1st which executes a program recorded on such a record medium - the 3rd computer make communication using voice and an image between these customers and an expert start by the 2nd data-exchange step in a customer who operates the 1st data-exchange step having asked for detailed explanation an expert who operates the 3rd data-exchange step etc. Therefore, a customer etc. is provided with extensive thru/or detailed information by expert who does not meet a customer etc. and directly.

[0038] Moreover, a record medium concerning the 10th viewpoint of this invention in which computer reading is possible A component extract means to create the voice feature data which expresses amplitude of a component of predetermined frequency for a computer among an operator's voice, A playback means to acquire said voice feature data and to reproduce voice showing what superimposed mutually an AC signal which has amplitude and said predetermined frequency which said acquired voice feature data expresses as said voice which said voice feature data expresses, It is characterized by having carried out and recording a program for making it function.

[0039] According to the computer which executes a program recorded on such a record medium, the amount of data of voice data becomes small compared with what only carried out [voice] A/D conversion, transmission of data comes to be performed smoothly, and generating of delay is prevented.

[0040] Moreover, a record medium concerning the 11th viewpoint of this invention in which computer reading is possible An image data origination means by which a ratio of the amount of data to time amount which expresses an animation and playback of the animation takes a computer creates equal image data substantially to a value which density assignment information supplied to self shows, a density assignment means to supply said density assignment information to said image data origination means -- ** -- it is characterized by having carried out and recording a program for making it function.

[0041] A computer which executes a program recorded on such a record medium transmits an image with high resolution, when density assignment information that creation of image data which expresses an animation of high density when details of an image need to be grasped is directed is supplied.

[0042]

[Embodiment of the Invention] The window operating system which performs processing which is equivalent to window business, such as a financial institution, with reference to a drawing hereafter in the data switched system concerning the gestalt of implementation of this invention, a speech processing unit, an image processing system, the data-exchange method, the speech processing method, and the image-processing method is explained as an example.

[0043] Drawing 1 is the block diagram showing this window operating structure of a system. This window operating system consists of the uninhabited store terminal 1, a concentration pin center,large 2, and an expert pin center,large 3 so that it may illustrate.

[0044] The uninhabited store terminal 1 consists of a control section 101, a video camera 102, the image-processing section 103, a scanner 104, a microphone 105, a loudspeaker 106, the speech processing section 107, the input device 108, a display 109, a printer 110, and a terminal adopter 111, as shown in drawing 2 . In addition, the address of a proper is beforehand matched with self by the uninhabited store terminal 1.

[0045] A control section 101 is equipped with the information processing section which consists of a CPU (Central Processing Unit) etc., the primary storage which consists of RAM (Random Access Memory) etc., and the enternal memory section which consists of a hard disk drive unit etc. The information processing section of a control section 101 reads the program data memorized by the enternal memory section, and performs processing mentioned later according to the program data. A primary storage is used as a working area of the information storage section.

[0046] A video camera 102 generates the picture signal showing the image reflected in a self visual field, and supplies it to the image-processing section 103. The image-processing section 103 performs actuation which answers directions of a control section 101 and is mentioned later, and displays an image on a display 109. In addition, a display 109 also displays the image according to directions of a control section 101.

[0047] A scanner 104 is equipped with case 141F, up covering 141B, photosensors 142F and 142B, the sensor mechanical components 143F and 143B, and Screens 144F and 144B as shown in drawing 3 .

[0048] The aperture which consists of screen 144F which consist of a transparent plate etc. substantially is prepared in the upper surface of case 141F of a scanner 104. Photosensor 142F and sensor mechanical-component 143F are installed in the interior of case 141F. By driving by sensor mechanical-component 143F, photosensor 142F scan screen 144F, generate the picture signal showing the image of the field which touches screen 144F among the manuscripts set to the scanner 104, and supply the generated picture signal to a control section 101.

[0049] The aperture which consists of screen 144B which consists of a transparent plate etc. substantially is prepared in up covering 141B, and it is connected in movable with case 141F using the hinge etc. so that it may be possible to insert the manuscript which should be set to a scanner 104 with Screens 144F and 144B.

[0050] Photosensor 142B and sensor mechanical-component 143B are installed in the interior of up covering 141B. By driving by sensor mechanical-component 143B, photosensor 142B scans screen 144B, generates the picture signal showing the image of the field which touches screen 144B among the manuscripts set to the scanner 104, and supplies the generated picture signal to a control section 101.

[0051] A microphone 105 changes voice into the sound signal which is an electric signal, and supplies a sound signal to the speech processing section 107. The speech processing section 107 performs processing mentioned later, drives a loudspeaker 106, and makes a loudspeaker 106 generate voice.

[0052] The input device 108 consists of a touch panel etc., and supplies the information according to actuation of an operator to a control section 101. A printer 110 prints an alphabetic character, a graphic form, etc. according to directions of a control section 101 in space, and discharges the printed form. It connects between a control section 101 and a network, and a terminal adopter 111 carries transmission of the data between the uninhabited store terminal 1 and a network according to directions of a control section 101.

[0053] The concentration pin center,large 2 consists of a communications server 21, the data server 22, operator terminals 23a-23c, and a terminal adopter 24, as shown in drawing 1 . A communications server 21, the data server 22, and the operator terminals 23a-23c of each other are connected through LAN (Local Area Network). In addition, the address of a proper is beforehand matched with the communications server 21 by each operator terminals 23a-23c at each one.

[0054] A communications server 21 has the information processing section which consists of a CPU etc., the primary storage which consists of RAM etc., the enternal memory section which consists of a hard disk drive unit etc., and a timer. A communications server's 21 information processing section is connected to a network through a terminal adopter 24. And according to the processing which the program data memorized by a communications server's 21 enternal memory section shows, the data (namely, data to which the address of communications server 21 self or the operator terminals 23a-23c is given as the transmission place address which shows a transmission place) addressed to the concentration pin center,large 2 is received from a network.

[0055] If data is received, a communications server's 21 information processing section will analyze the contents of the received data, and will perform processing mentioned later according to the result of analysis. When the received data is the message from the uninhabited store terminal 1 which applies for a dialogue with the operator of the concentration pin center,large 2, specifically according to the processing with the uninhabited store terminal 1 later mentioned as the communicative other party, either is assigned among the operator terminals 23a-23c.

[0056] The data server 22 is equipped with the data base which matches mutually the information showing the special field of study on the business of the expert who operates the terminals 32a-32c according to speciality which the address and the address of the terminals 32a-32c according to speciality which the expert pin center,large 3 mentions later show (for example, fields, such as a loan, investment, and insurance), and memorizes it. And access of the operator terminals 23a-23c is answered, and the contents stored in this data base are supplied to the accessed operator terminals 23a-23c. Moreover, the data server 22 answers access of the operator terminals 23a-23c, and writes in the data supplied to this data base from the operator terminals 23a-23c.

[0057] The operator terminals 23a-23c are substantially the same mutually, and as shown in drawing 4 , all consist of a control section 231, a video camera 232, the image-processing section 233, a microphone 234, a loudspeaker 235, the speech processing section 236, an input device 237, and a display 238.

[0058] As substantially as the control section 101 of the uninhabited store terminal 1, a control section 231 is the same and performs processing mentioned later. The input device 237 consists of a keyboard, a mouse, etc., and supplies the information according to actuation of an operator to a control section 231.

[0059] As substantially as a video camera 102, a video camera 232 is the same, generates the picture signal showing the image reflected in a self visual field, and supplies it to the image-processing section 233. As substantially as the image-processing section 103, the image-processing section 233 is the same, performs actuation later mentioned according to directions of a control section 231, and displays an image on a display 238.

[0060] As substantially as a microphone 105, a microphone 234 is the same and supplies a sound signal to the speech processing section 236. The speech processing section 236 performs processing which it is the same and is mentioned later as substantially as the speech processing section 107, and makes a loudspeaker 235 generate voice.

[0061] The expert pin center,large 3 serves as a communications server 31 from the Monbetsu terminals 32a-32c and a terminal adopter 33 chiefly. A communications server 31 and the terminals 32a-32c according to speciality of each other are connected through LAN. In addition, the address of a proper is beforehand matched with the communications server 31 by each terminals 32a-32c according to speciality at each one.

[0062] As substantially as the communications server 21 of the concentration pin center,large 2, it is the same, and connects with a network through a terminal adopter 33, and a communications server 31 receives from a network the data (namely, a communications server 31 or data to which the address of the Monbetsu terminals 32a-32c was chiefly given as the transmission place address) addressed to the expert pin center,large 3. And the contents of the received data are analyzed and processing mentioned later is performed according to the result of analysis.

[0063] Chiefly, the Monbetsu terminals 32a-32c are substantially the same mutually, and as shown in drawing 5 , all consist of a control section 321, a video camera 322, the image-processing section 323, a microphone 324, a loudspeaker 325, the speech processing section 326, an input device 327, and a display 328.

[0064] As substantially as the control section 101 of the uninhabited store terminal 1, a control section 321 is the same and performs processing mentioned later. As substantially as the input device 237, the input device 327 is the same and supplies the information according to actuation of an operator to a control section 321.

[0065] As substantially as a video camera 102, a video camera 322 is the same, generates the picture signal showing the image reflected in a self visual field, and supplies it to the image-processing section 323. As substantially as the image-processing section 103, the image-processing section 323 is the same, performs actuation later mentioned according to directions of a control section 321, and displays an image on a display 328.

[0066] As substantially as a microphone 105, a microphone 324 is the same and supplies a sound signal to the speech processing section 326. The speech processing section 326 performs processing which it is the same and is mentioned later as substantially as the speech processing section 107, and makes a loudspeaker 325 generate voice.

[0067] (Actuation) Next, actuation of this window operating system is explained with reference to drawing 6 - drawing 9 . Drawing 6 is a flow chart showing processing of the dialogue between customer-operators. Drawing 7 is a flow chart showing processing of creation of the voice feature information. Drawing 8 is a flow chart showing processing of dealings between customer-operators. Drawing 9 is a flow chart showing processing of the dialogue between customer-experts.

[0068] (Initial processing) First, if the uninhabited store terminal 1 starts, the control section 101 of the uninhabited store terminal 1 will be directed to a terminal adopter 111, and will connect the uninhabited store terminal 1 to a network through a terminal adopter 111. Moreover, if the communications server 21 of the concentration pin center,large 2 starts, a communications server 21 will direct to a terminal adopter 24, and will connect the concentration pin center,large 2 to a network through a terminal adopter 24. Moreover, if the communications server 31 of the expert pin center,large 3 starts, a communications server 31 will direct to a terminal adopter 33, and will connect the expert pin center,large 3 to a network through a terminal adopter 33. Thereby, the uninhabited store terminal 1, the concentration pin center,large 2, and the expert pin center,large 3 of each other are connected through a network.

[0069] (Dialogue between customer-operators) And the communications server 21 of the concentration pin center,large 2 does the same number reservation of the queue which is the storage region matched with each of the operator terminals 23a-23c with the number of operator terminals all over the storage region which a self primary storage has (drawing 6 , step S201).

[0070] Next, in order that the customer of a financial institution may operate the input device 108 of the uninhabited store terminal 1 and may perform a dialogue with the operator of the concentration pin center,large 2 to a control section 101, it directs to access the concentration pin center,large 2 (drawing 6 , step S101). A control section 101 answers these directions, is addressed to the communications server 21 of the concentration pin center,large 2, and the message which applies for a dialogue with the operator of the concentration pin center,large 2 is transmitted to the concentration pin center,large 2 through a network (step S102). That is, after giving a communications server's 21 address to the message which applies for a dialogue with the operator of the concentration pin center,large 2 as the transmission place address, the message concerned is sent out to a network.

[0071] A communications server 21 receives what was addressed to self among the messages sent out to the network (namely, message to which the self address was given as the transmission place address) (step S202), analyzes the contents of the message which received, and performs processing according to the result of analysis.

[0072] When the message which received is an above-mentioned message which was transmitted from the uninhabited store terminal 1 and which applies for a dialogue with the operator of the concentration pin center,large 2, a communications server 21 acquires the information showing current time from a self timer. And the operator terminal which performs the communication link with the uninhabited store terminal 1 which transmitted the message which received is assigned [from] among the operator terminals 23a-23c.

[0073] a communications server 21 does reading appearance of the contents of each queue which self secured, and, specifically, specifies a queue with few uninhabited store terminals 1 currently assigned actually than the contents which carried out reading appearance (step S203). And the address of the uninhabited store terminal 1 which newly transmitted the message which applies for a dialogue, and the information which shows the arrival-of-the-mail time of day of the message are matched mutually, and is stored in the specified queue (step S204).

[0074] However, when there are two or more queues with few uninhabited store terminals 1 currently assigned actually, it stores in a queue with the newest oldest information stored in self among each corresponding queue. Moreover, when there are two or more empty queues, what has the oldest time of day that started the newest communication link with the uninhabited store terminal 1 among the operator terminals which each corresponding queue shows is specified, and it stores in the queue in which assignment to the specified operator terminal is shown.

[0075] On the other hand, the control section 231 of each operator terminals 23a-23c reads the contents of the queue in which assignment of the uninhabited store terminal 1 to the operator terminal with which each one belongs whenever [with starting of an operator terminal or the uninhabited store terminal 1 with which each one belongs] it is termination of a dialogue is shown from a communications server 21. And what has the oldest time of day stored among the addresses of the uninhabited store terminal 1 included in the read contents (namely, address to which the oldest time information was given) is specified (step S205).

[0076] The control section 231 which specified the address eliminates the information which accessed the communications server 21 and was first matched with the specified address and the address concerned from the queue with which it is stored in the address (step S206). Subsequently, a control section 231 directs to picturize an operator's face to a video camera 232, and directs to process the sound signal supplied from a microphone 235 at the speech processing section 236.

[0077] And a video camera 232 creates the picture signal with which an operator's face is picturized and the picturized image is expressed, and supplies it to the image-processing section 233. The image-processing section 233 creates picture compression information by predetermined technique, and supplies it to a control section 231 (step S207). If a picture signal is supplied to the image-processing section 233 from a video camera 232, it will create the image data showing the supplied picture signal of MPEG format, and, specifically, will supply it to a control section 231.

[0078] However, the image-processing section 233 changes into the image data of JPEG format the picture signal supplied from the video camera 102, and supplies it to a control section 231 from it until directions of the purport of which high-definition image acquisition is canceled will be supplied by the control section 231 from a control section 231 after receiving the directions if high-definition image acquisition is directed. And if directions of the purport of which high-definition image acquisition is canceled are

supplied from a control section 231, after receiving the directions, the picture signal supplied from the video camera 232 is changed into the image data of MPEG format, and is supplied to a control section 231.

[0079] In addition, the format of the image data generated at a period until it receives directions of the purport of which high-definition image acquisition is canceled after high-definition image acquisition is directed in the image-processing section 233 from a control section 231, and the format of the image data generated at other periods do not need to be JPEG format and MPEG format, respectively. The format of the image data which the image-processing section 233 generates at both periods is arbitration as long as it is the format whose amount of the data with which the direction of the image data generated at the latter period expresses the image of fixed time length decreases compared with the image data generated at the former period.

[0080] Moreover, the timing which supplies directions of the purport of which directions and high-definition image acquisition of high definition of image acquisition are canceled to the image-processing section 233 has an arbitrary control section 231. Therefore, a control section 231 answers the command which the operator operated the input device 237 and was supplied to the control section 231, and you may make it supply these directions to the image-processing section 233.

[0081] Moreover, if an operator utters voice toward a microphone 234, a microphone 234 will generate the sound signal showing the voice, and will supply it to the speech processing section 236. The speech processing section 236 creates the voice feature information according to processing of creation of the voice feature information shown in drawing 7 , and supplies it to a control section 231 (step S207).

[0082] That is, if the directions which generate the voice feature information are supplied to the speech processing section 236 from a control section 231 so that it may illustrate, these directions will be answered and the sound signal of the analog format supplied from a microphone 234 will be first changed into the sound signal (digitized voice signal) of a digital format one by one (drawing 7 , step S301).

[0083] The speech processing section 236 is divided to the portion showing the voice divided in the digitized voice signal acquired by conversion with the predetermined time interval (for example, gap for every 10 mses) (step S302). And the speech processing section 236 gives FFT (Fast Fourier Transformation) to each portion obtained as a result of dividing a digitized voice signal, and generates the data (frequency data) showing what carried out [voice / which each of these portions express] the Fourier transform (step S303).

[0084] Next, the speech processing section 236 extracts three data showing the amplitude of a predetermined frequency component (specifically about 300 Hertz, about 1kHz, and about 3kHz) from each generated frequency data (step S304).

[0085] Next, the speech processing section 236 changes each extracted data into a predetermined data format, and creates the voice feature information. And a control section 231 is supplied in the same sequence as the sequence that the audio portion with which the group expresses mutually the group of matching and the voice feature information matched mutually was located in a line for every thing showing the data from which the created voice feature information was extracted from the same frequency data (step S305). The voice feature information that the voice collected by the microphone 234 is expressed is generated by the processing explained above, and a control section 231 is supplied.

[0086] The control section 231 to which picture compression information and the voice feature information were supplied combines both, attaches the address of the uninhabited store terminal 1 which is the communicative other party as the transmission place address, attaches the address of the operator terminal with which self belongs as the transmitting agency address, and creates a packet. And the created packet is supplied to a communications server 21 (drawing 6 , step S208). A communications server 21 is the same order as the sequence of having been supplied from the control section 231, and sends out the packet supplied from the control section 231 to a network for every predetermined period.

[0087] The picture compression information and the voice feature information which the control section 101 of the uninhabited store terminal 1 which, on the other hand, transmitted the message which applies for a dialogue receives what was addressed to the uninhabited store terminal 1 with which self belongs among the packets sent out to the network (step S103), and are included in the packet which received are separated (step S104).

[0088] And a control section 101 supplies the separated picture compression information to the image-processing section 103, directs the reload of an image, supplies the separated voice feature information to the speech processing section 107, and directs an audio reload.

[0089] The image-processing section 103 restores a picture signal by predetermined technique from the picture compression information supplied from the control section 101, and supplies it to a display 109. A display 109 displays the image which the supplied picture signal expresses (step S105).

[0090] Moreover, the speech processing section 107 restores a sound signal from the voice feature information supplied from the control section 101, and supplies it to a loudspeaker 106. A loudspeaker 106 reproduces the voice which the supplied sound signal expresses (step S105).

[0091] If the voice feature information is supplied to the speech processing section 107 and playback of that voice feature information is directed in it from a control section 101, specifically, it will restore the data showing the amplitude of the predetermined frequency component of the voice of the object which answers these directions and is reproduced.

[0092] Next, the speech processing section 107 creates the digitized voice signal showing what superimposed three sine waves which have the frequency and the amplitude which each data contained in the group expresses about the group of the data extracted from the same frequency data. However, let substantially the length of the voice which the digitized voice signal to create expresses be the same length with the length of the voice to which each portion in the case of dividing into each portion expresses the above-mentioned digitized voice signal with which speech processing section 107 self changed and acquired the sound signal supplied from the microphone 105.

[0093] Next, the speech processing section 107 is changed into the sound signal (analog sound signal) of analog format in the same sequence as the sequence that the voice of the portion with which the digitized voice signal expresses the created digitized voice signal was located in a line, and supplies the analog sound signal acquired by conversion to a loudspeaker 106 succeeding the order which

was able to be obtained. Consequently, a loudspeaker 106 reproduces the voice which the analog sound signal supplied to self expresses.

[0094] Moreover, the control section 101 which received the packet addressed to uninhabited store terminal 1 to which self belongs directs the image pick-up of a customer's face to a video camera 102, and directs to process the sound signal supplied from a microphone 105 at the speech processing section 107.

[0095] A video camera 102 creates the picture signal with which directions are answered, a customer's face is picturized and the picturized image is expressed, and supplies it to the image-processing section 103. The image-processing section 233 of the operator terminals 23a-23c creates picture compression information by the same processing substantially with the processing performed at step S207, and supplies the image-processing section 103 to a control section 101 (step S106).

[0096] Moreover, a customer utters voice toward a microphone 105, and if a microphone 105 generates the sound signal showing the voice and supplies it to the speech processing section 107, the speech processing section 236 of the operator terminals 23a-23c will create the voice feature information according to the same processing substantially with the processing performed at step S207, and will supply the speech processing section 107 to a control section 101 (step S106).

[0097] A control section 101 combines the picture compression information and the voice feature information which were supplied to self, attaches the transmitting agency address (namely, address of the operator terminal which is the communicative other party) included in the self-addressed packet as the transmission place address, attaches the address of the uninhabited store terminal 1 with which self belongs as the transmitting agency address, and creates a packet. And the created packet is sent out to a network for every predetermined period in order of creation (step S107).

[0098] And a communications server 21 supplies the packet concerned to the operator terminal which the transmission place address which received the packet addressed to an operator terminal connected to self (step S209), and was given to the packet which received shows.

[0099] The control section 231 of the operator terminals 23a-23c separates the picture compression information and the voice feature information which are included in the supplied packet, supplies the separated picture compression information to the image-processing section 233, directs the reload of an image, supplies the separated voice feature information to the speech processing section 236, and directs an audio reload.

[0100] The image-processing section 233 displays on a display 238 the image which the picture compression information by which the image-processing section 103 of the uninhabited store terminal 1 was supplied as substantially as the processing performed at step S105 to self according to the same processing expresses (step S210). The speech processing section 236 makes a loudspeaker 235 reproduce the voice which the voice feature information that the speech processing section 107 of the uninhabited store terminal 1 was supplied to self according to the same processing as substantially as the processing performed at step S105 expresses (step S210).

[0101] The voice feature information that the uninhabited store terminal 1 and the operator terminal with the uninhabited store terminal 1 assigned as the communicative other party express hereafter the voice which collected the sound with the microphone with which creates the picture compression information showing the image which the video camera with which each one is equipped picturized, and each one is equipped is created. And the packet which gave the other party's address to these created signals is created, these packets are exchanged through a network and a communications server 21, and the image and voice which the contents of the packet express are restored. It enables this to have a dialog using this window operating system between the customer who operates the uninhabited store terminal 1, and the operator who operates the operator terminal which is the other party of a communication link of that uninhabited store terminal 1.

[0102] And if a customer operates the input device 108 and directs termination of a dialogue, a control section 101 will be addressed to the operator terminal which is the other party of a communication link of the uninhabited store terminal 1 with which self belongs, will transmit the message which notifies termination of a dialogue, and will end processing of a dialogue. The operator terminals 23a-23c which received this message through the communications server 21 also end processing of a dialogue.

[0103] On the other hand, when an operator operates the input device 237 and directs termination of a dialogue, a control section 231 addresses to the uninhabited store terminal 1 which is the other party of a communication link of the operator terminal with which self belongs, transmits the message which notifies termination of a dialogue, and ends processing of a dialogue. The uninhabited store terminal 1 which received this message also ends processing of a dialogue.

[0104] (Dealings between customer-operators) When the agreement which concludes the contract of new creation of a bank account etc. is materialized between a customer as a result of performing the dialogue which used above-mentioned processing between the customer who operates the uninhabited store terminal 1, and the operator who operates an operator terminal, and an operator, this window operating system performs the processing shown in drawing 8 in order to conclude a contract.

[0105] That is, first, an operator operates the input device 237 of the operator terminals 23a-23c, and directs the purport which starts conclusion of a contract so that it may illustrate (drawing 8 , step S401). The control section 231 connected to that input device 237 answers these directions, creates the data showing the image explaining the entry matter of a contract, gives the address of the uninhabited store terminal 1 which is the other party of a communication link of the operator terminal with which self belongs as the transmission place address to the created data, and transmits to a communications server 21 (step S402). In addition, a control section 231 does not newly need to create the data showing the image which explains the entry matter of a contract whenever it receives directions, and you may make it CPU of a control section 231 read the data concerned beforehand memorized by the external storage device of a control section 231.

[0106] If the data showing the image explaining the entry matter of a contract is supplied to a communications server 21 from the operator terminals 23a-23c, he sends out the data concerned to a network. Supplying this data to the image-processing section 103, if the control section 101 of the uninhabited store terminal 1 receives the data concerned addressed to self (step S501), the image-processing section 103 displays the image (namely, image explaining the entry matter of a contract) which the data concerned expresses to a display 109 (step S502).

[0107] Next, a customer operates the input device 108 according to explanation by the image currently displayed on the display 109 of the uninhabited store terminal 1, inputs the information equivalent to the entry matter of a contract, and inputs further the information on a purport that the intention of conclusion of a contract is checked (step S503). then, the control section 101 -- these directions -- answering -- the image-processing section 103 -- him -- the image data showing the image in which the message which asks for presentation of a check document was described is created, the image-processing section 103 is supplied, and the image-processing section 103 displays that image on a display 109. However, you may make it a control section 101 supply the image data concerned beforehand memorized by the external storage device with which self is equipped to the image-processing section 103.

[0108] the message which asks for presentation of a he check document displays on a display 109 -- having -- a customer -- him, such as a driver's license, -- if a check document is set to a scanner 104, the input device 108 is operated and scanning initiation is directed (step S504) -- a scanner 104 -- him -- the data showing the image of the surface of a check document and a rear face is generated, and a control section 101 is supplied (step S505).

[0109] If directions of scanning activation are performed, the sensor mechanical components 143F and 143B of a scanner 104 drive photosensors 142F and 142B, and, specifically, scan Screens 144F and 144B. And photosensors 142F and 142B generate the data showing the image of each side of the manuscript (namely, manuscript inserted into Screens 144F and 144B) set to the scanner 104, and supply it to a control section 101.

[0110] a control section 101 -- him -- these data that combined the data showing the image of the surface of a check document and a rear face and the data of each other showing the entry matter of the contract which the customer inputted, and was combined is addressed to the operator terminal which is the communicative other party, and it transmits (step S506).

[0111] A communications server 21 receives the data showing the entry matter of a contract addressed to the operator terminal connected to self, and supplies the data to the operator terminal which the transmission place address given to the data shows. The control section 231 of an operator terminal to which the data concerned was supplied supplies the supplied data to the image-processing section 233, and the image-processing section 233 displays the image (namely, him the image of the surface of a check document, and a rear face and the image in which the entry matter of a contract was described) which the supplied data expresses on a display 238 (step S403).

[0112] and those to whom an operator does checking by looking the image displayed on the display 238 etc., and operates the uninhabited store terminal 1 -- a customer -- after checking that he is him, the input device 237 is operated, and the purport which performs conclusion of a contract is directed. Then, the control section 231 connected to that input device 237 answers these directions, and creates the image data showing the document of a contract based on the above-mentioned data in which the entry matter of a contract is shown.

[0113] And a control section 231 attaches the address of the uninhabited store terminal 1 which is the other party of a communication link of the operator terminal with which self belongs to the created image data, and supplies it to a communications server 21 (step S404). A communications server 21 sends out the supplied image data to a network, and the control section 101 of the uninhabited store terminal 1 receives the image data addressed to the uninhabited store terminal 1 (step S507).

[0114] If image data is received, a control section 101 supplies the image data to the image-processing section 103, and directs printing of the image which the image data expresses to the image-processing section 103. If the image data showing the image of the document of a contract is supplied to the image-processing section 103 from a control section 101 and directions of printing of an image are supplied to it from a control section 101, it directs printing of the image which the image data concerned expresses to a printer 110 according to the directions. By printing in space the image which the image data concerned expresses, a printer 110 draws up a contract and discharges the drawn-up contract (step S508).

[0115] (Record in a data base) When, recording image and voice of the customer who operates the uninhabited store terminal 1 on the data base of the data server 22 in addition, it is the timing of the arbitration after initiation of a dialogue with a customer, and the operator who operates an operator terminal operates the input device 237 of the operator terminals 23a-23c, and directs record in a data base.

[0116] The control section 231 connected to that input device 237 answers these directions, the image which urges the input of the discernment data (for example, that customer's name, the account number, etc.) which identifies a customer to a display 238 is displayed, and it stands by that discernment data is supplied.

[0117] If an operator operates the input device 237 and supplies discernment data, a control section 231 will be accessed at the data server 22. And the packet supplied from the uninhabited store terminal 1 which is the other party of a current communication link of the operator terminal with which self belongs, and the discernment data supplied using the input device 237 are supplied to the data server 22.

[0118] From the operator terminals 23a-23c, if a packet and discernment data are supplied to the data server 22, it matches mutually the contents and discernment data of a packet which were supplied, and stores them in a self data base. However, what is necessary is not to store discernment data further, to match with the discernment data in which the contents of the packet are already stored, and just to store, when the same discernment data is already stored in the data base.

[0119] in addition, him who the data stored in a data base was not restricted to the picture compression information or the voice feature information which are included in a packet, but was supplied from the uninhabited store terminal 1 -- you may be data showing the image of a check document.

[0120] The data stored in the data base by processing explained above can be read with the operator terminals 23a-23c etc., and the voice which the image which picture compression information expresses, and the voice feature information express with the read operator terminals 23a-23c is restored. Moreover, the data by which reading appearance was carried out from the data base may be posted to record media, such as MO (Magneto-Optical) disk and a floppy disk, through the record-medium access equipment which is not illustrated.

[0121] (The dialogue between the customer-experts by demand of a customer) While processing of the dialogue mentioned above is

performed between the uninhabited store terminal 1 and the operator terminal which is the other party of a communication link of that uninhabited store terminal 1, a customer operates the input device 108 of an uninhabited store terminal 1, and if the purport which wishes a dialogue with the expert of a specific classification directs, this window operating system will perform the processing shown in drawing 9 .

[0122] That is, a customer will operate the input device 108 so that it may illustrate, and if the purport which wishes a dialogue with an expert is directed (drawing 9 , step S601), the control section 101 of the uninhabited store terminal 1 answers these directions, it will create the message showing dividing [which a customer wishes / of an expert], and will be addressed and transmitted to the communications server 21 of the concentration pin center,large 2 (step S602).

[0123] A communications server 21 specifies the address of the terminals 32a-32c according to speciality which the expert of classification whom the message which accessed the data server 22 and received shows operates, if the self-addressed message showing an expert's classification is received (step S701) (step S702). And a communications server 21 addresses and transmits to the terminals 32a-32c according to speciality which the address which self specified shows the information which shows the address of the uninhabited store terminal 1 which is the transmitting origin of the message which received (step S703).

[0124] The communications server 31 of the expert pin center,large 3 will supply the message which received to the terminals 32a-32c according to speciality which are the transmission places of the message, if what was addressed to the terminals 32a-32c according to speciality connected to self among the messages sent out to the network is received.

[0125] The control section 321 of the terminals 32a-32c according to speciality to which the message was supplied directs to picturize an operator's face to a video camera 322, and directs to process the sound signal supplied from a microphone 324 at the speech processing section 326.

[0126] And a video camera 322 supplies the picture signal with which directions are answered, an expert's face is picturized and the picturized image is expressed to the image-processing section 323. The image-processing section 323 creates picture compression information according to the same processing substantially with the processing which the image-processing section 233 of the operator terminals 23a-23c performs at the above-mentioned step S207, and supplies it to a control section 321 (step S704). Moreover, the speech processing section 326 creates the voice feature information by the same processing substantially with the processing which the speech processing section 236 of the operator terminals 23a-23c performs at the above-mentioned step S207 from the voice which the microphone 324 collected, and supplies it to a control section 321 (step S704).

[0127] A control section 321 combines the picture compression information and the voice feature information which were supplied to self, attaches the address of the uninhabited store terminal 1 which transmitted the message which wishes the communication link with self as the transmission place address, attaches the self address as the transmitting agency address, and creates a packet. And the created packet is sent out to a network for every predetermined period in order of creation (step S705).

[0128] The uninhabited store terminal 1 which, on the other hand, transmitted the message which applies for a dialogue with an expert will restore the image and the voice which perform the same processing substantially with processing of the above-mentioned step S105, and the contents of the packet which received express, if what was addressed to the uninhabited store terminal 1 with which self belongs among the packets sent out to the network is received (step S603) (step S604).

[0129] Moreover, the uninhabited store terminal 1 performs the same processing substantially with processing of the above-mentioned step S106, creates a packet including the transmission place address which shows the terminal according to speciality which are picture compression information, the voice feature information, and the communicative other party (step S605), and sends it out to a network (step S606).

[0130] On the other hand, the terminals 32a-32c according to speciality which created the packet addressed to the uninhabited store terminal 1, and were supplied to the communications server 31, and a communications server 31 perform the same processing substantially with the processing which the operator terminals 23a-23c and a communications server 21 performed at the above-mentioned steps S209 and S210, respectively.

[0131] Thereby, a communications server 31 receives the packet chiefly addressed and sent out to the Monbetsu terminals 32a-32c from the uninhabited store terminal 1, and transmits the packet to the terminals 32a-32c according to speciality with which the packet was addressed. And the Monbetsu terminals 32a-32c restore chiefly the image and voice which the contents of the packet transmitted by the communications server 31 express.

[0132] Moreover, chiefly, the Monbetsu terminals 32a-32c create a packet including the transmission place address which shows the uninhabited store terminal 1 which are picture compression information, the voice feature information, and the communicative other party, and supply it to a communications server 31, and a communications server 31 sends out to a network the packet chiefly supplied from the Monbetsu terminals 32a-32c.

[0133] (The dialogue between the expert-customers whom the operator specified) While processing of an above-mentioned dialogue is performed between uninhabited store terminal 1-operator terminals, an operator operates the input device 237 of the operator terminal concerned, and also when the classification of the expert with whom a customer should converse is specified, this window operating system moves to the condition in which the dialogue between the Monbetsu terminal 32 a - 32c-uninhabited store terminals 1 is possible chiefly again.

[0134] That is, if an operator performs actuation of specifying the classification of the expert with whom a customer should converse, using the input device 237 as above-mentioned, the control section 231 of the operator terminals 23a-23c answers this actuation, and specifies the address of the terminals 32a-32c according to speciality which the expert of the classification which accessed the data server 22 and was specified as it operates.

[0135] Next, the operator terminals 23a-23c create the message which makes the contents information which shows the address of the uninhabited store terminal 1 which is the other party of a self communication link, attach the address which self specified as this message, and supply it to a communications server 21.

[0136] A communications server 21 sends out to a network the message supplied from the operator terminals 23a-23c. That is, a

communications server 21 addresses and transmits to the terminals 32a-32c according to speciality which the address which the operator terminals 23a-23c specified shows the information which shows the address of the uninhabited store terminal 1 which is the other party of a communication link of the operator terminals 23a-23c.

[0137] And as for the terminals 32a-32c according to speciality which are a communications server 31 and the transmission place of the message concerned, reception of the message concerned which the communications server 21 transmitted of the communications server 31 of the expert pin center,large 3 performs the same processing substantially with the processing after the above-mentioned step S703. Moreover, the uninhabited store terminal 1 which the contents of the message concerned show performs the same processing substantially with the processing after the above-mentioned step S603.

[0138] It becomes possible to have a dialog by processing explained above, also between the customer concerned and the expert of the classification which the customer concerned directed using this window operating system, if at least one side directs among the operators who operate the operator terminal which is the other party of a communication link of the customer who operates the uninhabited store terminal 1, and its uninhabited store terminal 1.

[0139] In addition, also while the dialogue is performed between the customer who operates the uninhabited store terminal 1, and the expert who operates the Monbetsu terminals 32a-32c chiefly, the dialogue between the customer and the operator who operates the operator terminals 23a-23c can be continued.

[0140] What is necessary is for another side to address two packets which include the same picture compression information and the voice feature information substantially mutually to the operator terminal which is the communicative other party by addressing one side to the terminal according to speciality which is the communicative other party, and just to make it the control section 101 of the uninhabited store terminal 1 send out to a network, for example, when a customer performs the dialogue of both expert and operator.

[0141] Moreover, a dialogue may be made to be performed between an expert and an operator. In this case, the terminal according to speciality which became the other party of a communication link of the uninhabited store terminal 1 performs the same function substantially with the uninhabited store terminal 1, and should just perform [processing / of the dialogue between above-mentioned customer-operators] the same processing substantially with the operator terminal which is the other party of a communication link of the uninhabited store terminal 1. Thereby, the dialogue between the trinominals of a customer, an expert, and an operator is attained.

[0142] When the dialogue between a customer, an expert, and an operator is performed, each of three persons of a Monbetsu terminal may be made to display on coincidence the image which the contents of the uninhabited store terminal 1, the operator terminal which is the other party of a communication link of the uninhabited store terminal 1, and the packet addressed to self from two persons other than self show side by side among these 3 persons chiefly.

[0143] In addition, this window operating structure of a system is not restricted to an above-mentioned thing. For example, this window operating system may be equipped with two or more uninhabited store terminals 1. Moreover, the number of the operator terminals with which the concentration pin center,large 2 is equipped may not be restricted to three, but two or less or four or more are sufficient as it. Moreover, the number of the terminals according to speciality with which the expert pin center,large 3 is equipped may not be restricted to three, either, but two or less or four or more are sufficient as it.

[0144] Moreover, it is not necessary to connect through the network and direct continuation of the uninhabited store terminal 1, the concentration pin center,large 2, and the expert pin center,large 3 may be carried out, without at least 2 persons minding a network among these.

[0145] Moreover, it is not necessary to be equipment with the image-processing section 103 and the speech processing section 107 separate from a control section 101 for example, and common CPU and common DSP (Digital Signal Processor) may perform the function of a control section 101, the image-processing section 103, and the speech processing section 107. Similarly, common CPU and common DSP may perform the function of a control section 231, the image-processing section 233, and the speech processing section 236, and common CPU and common DSP may perform the function of a control section 321, the image-processing section 323, and the speech processing section 326.

[0146] moreover, the picture compression information to which the concentration pin center,large 2 was supplied from the uninhabited store terminal 1, the voice feature information, and him -- you may make it specify a customer based on the data showing the image of a check document

[0147] the packet which the uninhabited store terminal 1 specifically transmitted, and him -- the picture compression information thru/or the voice feature information included in the packet which the control section 231 received when the control section 231 of the operator terminals 23a-23c receives the data showing the image of a check document, and him -- the data of the image of a check document is supplied to the data server 22.

[0148] the picture compression information self has remembered the data server 22 to be, the voice feature information, and him -- the picture compression information to which the data of the image of a check document was supplied from the control section 231, the voice feature information, and him -- sequential distinction of whether it is a match the data of the image of a check document and under predetermined distinction conditions is carried out. and the picture compression information distinguished when the data server 22 was in agreement, the voice feature information, and him -- the discernment data matched with the data of the image of a check document is ****(ed), and the discernment data is returned to the control section 231 which supplied the voice feature information to self.

[0149] thus, those who will operate the uninhabited store terminal 1 if the operator terminals 23a-23c specify a customer based on the supplied discernment data concerned when a control section 231 receives supply of discernment data from the data server 22 -- a customer -- an operator does not need to check that he is him. Moreover, you may make it the information on the arbitration contained in the discernment data supplied from the data server 22 used for the operator terminals 23a-23c as an entry matter of a contract.

[0150] furthermore, the case where it is what returns the discernment data matched with the picture compression information distinguished when the data server 22 was in agreement with the picture compression information and the voice feature information which were supplied from the control section 231, or the voice feature information to a control section 231 -- the dealings between

customer-operators -- facing -- a customer -- him -- it is not necessary to show a check document

[0151] Moreover, the scanner 104 may be equipped with a case 141, the CCD (Charge Coupled Device) camera 142, the transparence boards 145F and 145B, and the transparence board mechanical component 146 as shown in drawing 10 .

[0152] In the scanner 104 shown in drawing 10 , the aperture for inserting the transparence boards 145F and 145B is prepared in the front face of a case 141. CCD camera 142 and the transparence board mechanical component 146 are installed in the interior of a case 141. The transparence board mechanical component 146 will hold the transparence boards 145F and 145B and manuscript which were inserted, if the transparence boards 145F and 145B which sandwiched the manuscript are inserted from the front face of a case 141.

[0153] And if the transparence boards 145F and 145B are rotated so that one field of a manuscript may turn to a CCD camera 142 side, CCD camera 142 will detect rotational completion and will picturize about the field it turned [field] to the self side among the manuscripts inserted into the transparence boards 145F and 145B (that is, the picture signal showing the image of the field is generated).

<TXF FR=0002 HE=225 WI=080 LX=1100 LY=0300> [0154] If CCD camera 142 completes the image pick-up which is the 1st time, the transparence board mechanical component 146 will rotate the transparence boards 145F and 145B so that the field of another side of a manuscript may turn to a CCD camera 142 side, and, as for CCD camera 142 which detected rotational completion, will perform the 2nd image pick-up. And CCD camera 142 which picturized each field of a manuscript supplies the picture signal generated as a thing showing the image of each side of a manuscript to a control section 101.

[0155] Moreover, the scanner 104 could be replaced with the transparence board mechanical component 146 among configurations of being shown in drawing 10 , and may be equipped with the 2nd CCD camera.

[0156] The 2nd CCD camera is installed in a location where the field of another side of the manuscript faces the 2nd CCD camera, when it is prepared in the interior of a case 141 and one field of a manuscript faces CCD camera 142. CCD camera 142 and the 2nd CCD camera picturize mostly the image of each field of the manuscript inserted into the transparence boards 145F and 145B to coincidence or sequential. And CCD camera 142 and the 2nd CCD camera which picturized each field of a manuscript supply the picture signal generated as a thing showing the image of each side of a manuscript to a control section 101.

[0157] Moreover, the uninhabited store terminal 1 may be equipped with two or more video cameras 102. And if the communication link with the uninhabited store terminal 1 equipped with two or more video cameras 102 is started, you may make it the operator terminals 23a-23c transmit the information which specifies the video camera 102 which should picturize an image as this uninhabited store terminal 1.

[0158] And if it is made for the control section 101 of the uninhabited store terminal 1 concerned which received this information to direct the image pick-up of an image to the video camera 102 which that information shows, the operator who operates the operator terminals 23a-23c will become possible [changing the video camera 102 which picturizes a customer's image to arbitration].

[0159]

[Effect of the Invention] As explained above, according to this invention, a data switched system and the data-exchange method with being extensive for being, carrying out and performing detailed information offer are realized by the dialogue person, without meeting directly. Moreover, according to this invention, when the details of an image need to be grasped, the image processing system and the image-processing method of transmitting an image with high resolution are also realized. Moreover, according to this invention, the speech processing unit and the speech processing method for transmitting voice data with little delay among dialogue persons are also realized. Moreover, according to this invention, the document reader which reads the image of each side of documents, such as a certificate, into a high speed is also realized.

[Translation done.]